# LTR 2025

## Qus N Ans.....

Q 12

## COMPUTER/ INTERNET AWARENESS

1. What is the full form of CPU?
   a) Computer Processing Unit
   b) Computer Principle Unit
   c) Central Processing Unit.
   d) Control Processing Unit

2. Which of the following unit is responsible for converting the data received from the user into a computer understandable format?
   a) Output Unit
   b) Input Unit
   c) Memory Unit
   d) Arithmetic & Logic Unit

3. What does USB stand for?
   a) Universal Signal Board
   b) Universal Signal Bus
   c) Universal Serial Bus.
   d) Universal Serial Board

4. A computer _____ is a malicious code which self-replicates by copying itself to other programs.
   a) program
   b) virus
   c) application
   d) worm

5. Shortcut key for "Subscript" is_____?
   a) Ctrl + Shift + – .
   b) Ctrl + Shift + =
   c) Ctrl + =
   d) Ctrl + –

6. Any system that uses the HTTP protocol is called _____?
   a) Web Browser
   b) Web Server
   c) WWW
   d) TCP/IP

7. Which one of the following is known as 'Permanent Memory'?
   a) RAM
   b) ROM.
   c) Cache
   d) Registers

8. A place that an user can create to store files is:
   a) Cursor
   b) Folder
   c) Boot
   d) Text

9. The hardware in which data may be stored for a computer system is called:
   a) Registers
   b) Chip
   c) Memory
   d) Control unit

10. The ALU performs _____ operations.
   a) Algorithm based
   b) Logarithm based
   c) Logic
   d) ASCII

11. The smallest unit of storage is:
   a) Byte
   b) Bit
   c) Nibble
   d) Bug

12. CD-ROM drive is used:
   a) To play music
   b) To install software
   c) To play compact disc
   d) To control virus

13. To protect yourself from computer hacker, you should turn on:
   a) Google chrome
   b) Script
   c) Firewall
   d) AUP

14. Which of the following controls the manner of interaction between the user and the operating system?
   a) User Interface
   b) Screensaver
   c) Platform
   d) Language Translator



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15. Which file format is a method of encoding pictures on a computer?
a) FTP
b) JPEG
c) URL
d) HTML

16. Zip is a _____ file.
a) System
b) Combo
c) Executable
d) Compressed

17. To restart the computer, which of the following combination of key is used?
a) Del + Ctrl
b) Backspace + Ctrl
c) Insert + Esc
d) Ctrl + Alt + Del

18. Malware is used to:
a) Disrupt computer operation
b) Gather sensitive information
c) Gain access to private computer systems
d) All of the above

19. RAM is also called:
a) Volatile memory
b) Non – Volatile memory
c) Permanent Memory
d) Both a and c

20. Microsoft Word is an example of _____
a) An operating system
b) A processing device
c) An application software
d) An input device

## CURRENT EVENTS OF NATIONAL/ INTERNATIOANAL IMPORTANCE

21. Where were 38th National Games held in Jan/Feb 2024?
a) Jammu & Kashmir
b) Uttarakhand
c) Meghalaya
d) Himachal Pradesh

22. Who was sworn in as Chief Minister of Delhi in Feb 2025?
a) Shri Arvind Kejriwal
b) Ms. Rekha Gupta
c) Ms. Atishi Marlena
d) Shri Parvesh Sahib Singh Verma

23. Who is the current Chief Justice of India?
a) Justice Sri D.Y Chandrachud
b) Justice Sri Sanjiv Khanna
c) Justice Sri N.V. Ramana
d) Justice Sri U.U Lalit

24. What is the Per Capita Income of Odisha in 2024-25, as per the Odisha Economic Survey 2024-25?
a) ₹ 83,462
b) ₹ 98,005
c) ₹ 1,25,946
d) ₹ 1,82,548

25. Which among the following four nations could not reach semi final of Champions Trophy (Cricket) conducted in February / March, 2025 ?
a) Pakistan
b) India
c) South Africa
d) Australia

26. To which city is Indonesia relocating its capital from Jakarta ?
a) Medan
b) Nusantara
c) Yogyakarta
d) Kota Ambon

27. Emir of Qatar visited India in February 2024 and held talks with the Prime Minister of India. Name the Emir of Qatar?
a) Sheikh Tamim bin Hamad Al Thani.
b) Hamad bin Khalifa Al Thani
c) Ahmad bin Ali Al Thani
d) Ali bin Abdullah Al Thani

28. Shyam Benegal died in December, 2024. In which field did he primarily distinguish himself ?
a) Literature
b) Dance
c) Film Making
d) Music



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29. Who has been appointed Chairman of NHRC in December, 2024 ?
a) Justice Sri Arun Mishra
b) Justice Sri D.Y. Chandrachud
c) Justice Sri V. Ramasubramanian
d) Justice Sri U. U. Lalit

30. Which country became the first in Europe to enact a law for menstrual leave ?
a) Spain
b) UK
c) Italy.
d) Sweden

## GENERAL STUDIES

31. Under which list of the Seventh Schedule of the Indian Constitution is the subject 'Education' listed?
a) Union List
b) State List
c) Concurrent List.
d) None of the above

32. Which among the following is not a fundamental right?
a) Right to Equality
b) Right to Freedom
c) Right to Property.
d) Right to Freedom of Religion

33. Which Article of the Indian Constitution abolished untouchability ?
a) Article 18
b) Article 17.
c) Article 13
d) Article 14

34. Procedure for Amendment of the constitution is described in which article of the Indian constitution?
a) 368
b) 352
c) 360
d) 356.

35. Article 1(1) of the Indian Constitution reads :
a) India, that is Bharat, shall be a Union of States.
b) India, that is Bharat, shall be a federation of States.
c) India, that is Bharat, shall be a Quasi Federation of States.
d) India shall be a Union of States.

36. Which among the following is listed as a Fundamental Right in the Indian Constitution?
a) Right to Property
b) Right to Food
c) Right to Education.
d) Right to Employment

37. How many languages are listed in 8th schedule of the Indian Constitution ?
a) 20
b) 22
c) 24
d) 26.

38. Which of the following banks is the "Central Bank" of our country?
a) State Bank of India
b) Union Bank of India
c) Reserve Bank of India.
d) Central Bank of India

39. What is the full form of MSME?
a) Medium , Small and Micro Enterprises
b) Micro , Small and Medium Enterprises.
c) Micro , Scale and Medium Enterprises
d) Medium , Scale and Micro Enterprises

40. In nominal GDP terms, what is the current rank of Indian Economy in the world ?
a) 4th largest
b) 5th largest
c) 6th largest
d) 7th largest



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41. As per Economic Survey 2024-25, nominal GDP of India has reached ?
a) 324.11 lakh crore
b) 304.11 lakh crore
c) 344.11 lakh crore
d) 2184.11 lakh crore

42. Globally which industry contributes maximum to greenhouse gas emission?
a) Power & Transport
b) Industrial Combustion
c) Agriculture
d) Waste Industries

43. Which among the following is the main constituent of Biogas after methane?
a) Carbon dioxide
b) Oxygen
c) Hydrogen
d) Ammonia

44. As per National Forest Policy, what should be the ideal percentage of forest cover in India for maintaining ecological balance?
a) 32%
b) 33%
c) 34%
d) 35%

45. As per latest Forest Survey of India report 2023, total forest cover of the country is ?
a) 8,27,356.95 Sq Km
b) 7,15,342.61 Sq Km
c) 62,156 Sq Km
d) 1,32,156 Sq Km

46. In which year did the Jallianwala Bagh Massacre take place?
a) 1914
b) 1918
c) 1919
d) 1921

47. When was the Quit India Movement launched?
a) 8th August, 1942
b) 15th August, 1942
c) 1st August, 1942
d) 26th May, 1942

48. Which one of the following was not a precipitating factor for launching of Non-cooperation Movement?
a) Passage of Rowlatt Act
b) Jallianwala Bagh Massacre
c) Dismemberment of Ottoman Empire.
d) Violence at Chauri Chaura Police Station

49. The Third battle of Panipat between Marathas and Afghan army took place in:
a) 1751
b) 1756
c) 1761
d) 1766

14 Jan 1761

50. The Sun temple at Konark was constructed in :
a) 13th century AD
b) 10th century AD
c) 11th century AD
d) 14th century AD

51. He/She attended the First Round Table Conference in London in 1931 and demanded separate Odisha province. Name him/her
a) Madhusudan Das
b) Gopabandhu Das
c) Maharaja Krushna Chandra Gajapati Narayan Deo
d) Rama Devi

in 1931 ↓ Separate Odisha Province

52. In which year Na'Anka famine affected Odisha?
a) 1860
b) 1866
c) 1864
d) 1885

53. What was the name of the capital of King Kharavela?



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a) Toshali
b) Kalinganagara
c) Katak Nagari
d) Jajpur

54. Which of the following is not a closed sea?
a) Dead Sea
b) Aral Sea
c) Caspian Sea
d) Black Sea

55. Which forest is known as the largest rain forest of the world?
a) Congo rain forest
b) Indo-Burma forest region
c) Amazon rain forest
d) Australian rain forest

56. Which state has the highest density of Population in India according to 2011 census?
a) Bihar
b) West Bengal
c) Kerala
d) Tamil Nadu

57. Which among the following rivers does not pass through Odisha ?
a) Mahanadi
b) Subarnarekha
c) Ganga
d) Rushikulya

58. Malkangiri's district headquarter is the farthest from state capital Bhubaneswar. Which district headquarter is the second farthest from state capital Bhubaneswar?
a) Nabarangpur
b) Nuapada
c) Koraput
d) Bhawanipatna

59. What is the percentage of Rural Population in odisha as per latest 2011 Census?
a) 81.3%
b) 83.3%
c) 85.3%
d) 79.3%

60. What is the area of Odisha?
a) 1,55,707 Sq. Km.
b) 1,45,707 Sq. Km.
c) 1,65,707 Sq. Km.
d) 1,55,107 Sq. Km.

## ARITHMETIC

61. A man sold two steel chairs for Rs 500 each. On one, he gains 20% and on other, he loses 12%. How much does he gain or lose in the whole transaction(approx)?
a) 1.5% gain
b) 2% gain
c) 1.5% loss
d) 2% loss

62. A sum of money lent out at simple interest amounts to Rs720 after 2 years and to Rs 1020 after a further period of 5 years. The sum is :
a) Rs 500
b) Rs 400
c) Rs 600
d) Rs700

63. The average score of boys in an examination in a school is 71 and that of the girls is 73. The average score of the school in that examination is 71.8. The ratio of the number of boys to the number of girls appeared in the examination is:
a) 1 : 2
b) 3 : 2
c) 2 : 2
d) 4 : 2

64. Class A has students twice that of Class B. After adding 20 students to class A and 30 students to Class B , the total number of students in both the classes is 140. What is the number of students in class A in the beginning?
a) 30
b) 60
c) 80
d) 140



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65. The average age of a jury of 5 is 40. If a member aged 35 resigns and a man aged 25 becomes a member, then the average age of the new jury is :
   a) 30
   b) 38
   c) 40
   d) 42

66. With an average speed of 40 km/hour, a train reaches its destination in time . If it goes with an average speed of 35 km/hour, it is late by 15 minutes. The total journey is:
   a) 30 km
   b) 40 km
   c) 70 km
   d) 80 km

67. The number of seats in an auditorium is increased by 25%. The price of a ticket is also increased by 12%.Then the increase in revenue collection will be
   a) 40%
   b) 35%
   c) 45%
   d) 48%

68. A person takes a loan of Rs 10, 000 partly from a bank at 8% per annum and remaining from another bank at 10% per annum. He pays a total interest of Rs 950 per annum. Amount of loan taken from the first bank (in Rs) is:
   a) 2500
   b) 5200
   c) 2050
   d) 5020

69. An article was sold for Rs 96. If percentage of profit was numerically equal to the cost price, the cost price of the article is
   a) Rs. 70
   b) Rs. 60
   c) Rs. 90
   d) Rs. 100

70. Three students A , B and C play Cricket. The runs scored by A and B respectively are in the ratio 3:2. B's runs to C's runs are also in the same ratio. Together they score 342 runs. Then the runs scored by B are:
   a) 216
   b) 108
   c) 90
   d) 171

71. A, B and C can complete a work in 2 hours . If A does the job alone in 6 hours and B in 5 hours, how long will it take for C to finish the job alone?
   a) $5\frac{1}{2}$hours
   b) $7\frac{1}{2}$hours
   c) 9 hours
   d) $4\frac{1}{2}$hours

72. The ratio of the number of boys and girls in a college is 3 : 2. If 20% of the boys and 25% of the girls are adults, the percentage of those students who are not adults, is:
   a) 58%
   b) 67.5%
   c) 78%
   d) 82.5%

73. Successive discounts of 10% and 30% are equivalent to a single discount of :
   a) 40%
   b) 35%
   c) 38%
   d) 37%

74. A car travels 432 km on 48 litres of petrol. How far would it travel on 20 litres of petrol?
   a) 180 km
   b) 160 km
   c) 200 km
   d) 140 km



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75. 120 men had food provision for 200 days. After five days, 30 men left the place. How long will the remaining food last?
a) 220 days
b) 210 days
c) 240 days
d) 260 days

76. Two pipes A and B can fill a tank in 12 minutes and 15 minutes respectively while a third pipe C can empty the full tank in 20 minutes. All the three pipes are opened in the beginning. However, pipe C is closed 6 minutes before the tank is filled. In what time will the tank be full?
a) 5 minutes
b) 7 minutes
c) 9 minutes
d) 11 minutes

77. If $\frac{1}{8}$ of a pencil is black, $\frac{1}{2}$ of the remaining is white and the remaining $3\frac{1}{2}$ cm is blue, find the total length of the pencil.
a) 4 cm
b) 6 cm
c) 8 cm
d) 12 cm

78. Find the maximum number of students among whom 1001 pens and 910 pencils can be distributed in such a way that each student gets the same number of pens and the same number of pencils?
a) 91
b) 910
c) 1001
d) 1911

79. 20 litres of a mixture contains milk and water in the ratio of 5 : 3. If four litres of this mixture is replaced by four litres of milk, then find the ratio of the milk to that of the water in the new mixture.
a) 2 : 3
b) 4 : 3
c) 5 : 3
d) 7 : 3

80. Three years ago X's age was double of Y's. Seven years hence, the sum of their united ages will be 83 years. The age of X today is:
a) 47 years
b) 35 years
c) 45 years
d) 24 years

## LOGICAL REASONING AND ANALYTICAL ABILITY, GENERAL MENTAL ABILITY

81. If SEASONAL is written as ESSANOLA, how can SEPARATE be written in that code?
a) SEAPARET
b) ESPARATE
c) ESPAARTE
d) ESAPARET

82. A man started from a place, walked towards North for 5 km, then turned $90^0$ to his right and walked another 5 km. Then he turned $45^0$ to his right and walked 2 km and turned $45^0$ to his left. What is his direction now?
a) South
b) South East
c) East
d) South West

83. Which of the given letter groups follows the same principle on which the numbers are arranged in the given number group?
[5, 8, 13, 20, 29]
a) ACGKR
b) ADIMS
c) ADIPY
d) ADGRO

84. From the given alternative words, select the word which cannot be formed using the letters of the given word.
ECCENTRICITY
a) TRINITY
b) TRICKY



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c) ENTER
d) CENTRE

85. The day before the day before yesterday is three days after Saturday. What day is it today?
a) Thursday
b) Friday
c) Tuesday
d) Wednesday

86. Ashok is facing East. He turns $90^0$ in the anticlockwise direction and then another $180^0$ turn in the same direction, finally he turns $45^0$ in the clockwise direction. In which direction is he facing now?
a) South – West
b) East
c) North – West
d) South

(Q. 87 – 90) A family consists of six members P, Q, R, S, T and U. There are two married couples. Q is a doctor and is the father of T. U is the grandfather of R and is a contractor. S is the grandmother of T and is a housewife. There is one doctor, one contractor, one nurse, one housewife and two students in the family.

87. Who is the sister of T?
a) R
b) T
c) U
d) Information insufficient

88. What is the profession of P?
a) Doctor
b) Doctor or nurse
c) Nurse
d) Housewife

89. Which of the following are the two married couples?
a) US, QT
b) TS, RU
c) US, QP
d) US, RP

90. Which of the following is definitely a group of male members?
a) QU
b) QUP
c) QUT
d) UT

91. In a certain code PAUSE is written as OBVTD and SHIFT is written as RIJGS. How will THINK be written in the same code?
a) UGHML
b) SIJOJ
c) SILOJ
d) SIJQJ

92. Ajay walked 2 m towards east, took a right turn and walked 7m. He then took a left turn and walked 5m before taking a left turn and walking 7 m. He then took a final right turn and walked 1m before stopping. How far is Ajay from the starting point?
a) 8 metres
b) 7 metres
c) 6 metres
d) 5 metres

93. If Saturday falls on the $4^{th}$ January, 1997, what day of the week will fall on the $4^{th}$ January, 1998?
a) Monday
b) Friday
c) Wednesday
d) Sunday

94. If '1' is subtracted from each even digit and '2' is added to each odd digit in the number 463852, how many digits will be repeated in the new number thus formed?
a) None
b) One
c) Two
d) Three

95. Trupti correctly remembers that the last time she went on leave was before the $16^{th}$ but after the $11^{th}$. Sameer correctly remembers that the last time Trupti went on leave was after the $13^{th}$ but before the



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eighteenth. On which day of the month did Trupti definitely go on leave?

a) $13^{th}$
b) $14^{th}$
c) $15^{th}$
d) Either $14^{th}$ or $15^{th}$.

(Q. 96 – 97) Kiran walks 20 m north, he turns right and walks 30m. Then he turns right and walks 35m. Then he turns left and walks 15m, then he turns left and walks 15m. He again turns left and walks 15 m.

96. How far Kiran is from his starting point?
a) 25 m
b) 15 m
c) 45 m
d) 30 m.

97. Which direction is Kiran facing now?
a) East
b) West
c) North
d) South

98. How many times the hands of the clock meet in a day?
a) 22
b) 21
c) 2
d) 24

(Q. 99-100) These questions are based on the following information.

P + Q means P is brother of Q.

P – Q means P is wife of Q.

P × Q means P is father of Q.

P ÷ Q means P is daughter of Q.

99. Which of the following expression shows that T is mother of L?
a) T – H + L
b) T – H × L
c) T ÷ H × L
d) T ÷ H + L

100. In F + M × V ÷ R, what is the relation of V with F?
a) Daughter
b) Son
c) Niece
d) Uncle.



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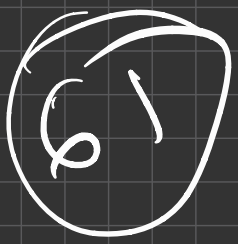
| TENTATIVE ANSWER KEY for Preliminary Examination of Leave Training Reserve (LTR) Teachers-2024 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| A | B | C | D | Answer Key | A | B | C | D | Answer Key |
| 1 | 71 | 51 | 31 | c | 51 | 21 | 1 | 81 | d |
| 2 | 72 | 52 | 32 | c | 52 | 22 | 2 | 82 | c |
| 3 | 73 | 53 | 33 | b | 53 | 23 | 3 | 83 | c |
| 4 | 74 | 54 | 34 | a | 54 | 24 | 4 | 84 | b |
| 5 | 75 | 55 | 35 | a | 55 | 25 | 5 | 85 | b |
| 6 | 76 | 56 | 36 | c | 56 | 26 | 6 | 86 | a |
| 7 | 77 | 57 | 37 | b | 57 | 27 | 7 | 87 | a |
| 8 | 78 | 58 | 38 | c | 58 | 28 | 8 | 88 | c |
| 9 | 79 | 59 | 39 | b | 59 | 29 | 9 | 89 | c |
| 10 | 80 | 60 | 40 | b | 60 | 30 | 10 | 90 | a |
| 11 | 81 | 61 | 41 | a | 61 | 31 | 11 | 91 | b |
| 12 | 82 | 62 | 42 | a | 62 | 32 | 12 | 92 | a |
| 13 | 83 | 63 | 43 | a | 63 | 33 | 13 | 93 | d |
| 14 | 84 | 64 | 44 | b | 64 | 34 | 14 | 94 | c |
| 15 | 85 | 65 | 45 | a | 65 | 35 | 15 | 95 | d |
| 16 | 86 | 66 | 46 | c | 66 | 36 | 16 | 96 | d |
| 17 | 87 | 67 | 47 | a | 67 | 37 | 17 | 97 | b |
| 18 | 88 | 68 | 48 | d | 68 | 38 | 18 | 98 | a |
| 19 | 89 | 69 | 49 | c | 69 | 39 | 19 | 99 | b |
| 20 | 90 | 70 | 50 | a | 70 | 40 | 20 | 100 | c |
| 21 | 91 | 71 | 51 | c | 71 | 41 | 21 | 1 | c |
| 22 | 92 | 72 | 52 | b | 72 | 42 | 22 | 2 | b |
| 23 | 93 | 73 | 53 | b | 73 | 43 | 23 | 3 | c |
| 24 | 94 | 74 | 54 | d | 74 | 44 | 24 | 4 | d |
| 25 | 95 | 75 | 55 | c | 75 | 45 | 25 | 5 | c |
| 26 | 96 | 76 | 56 | a | 76 | 46 | 26 | 6 | b |
| 27 | 97 | 77 | 57 | c | 77 | 47 | 27 | 7 | b |
| 28 | 98 | 78 | 58 | a | 78 | 48 | 28 | 8 | b |
| 29 | 99 | 79 | 59 | b | 79 | 49 | 29 | 9 | c |
| 30 | 100 | 80 | 60 | a | 80 | 50 | 30 | 10 | c |
| 31 | 1 | 81 | 61 | a | 81 | 51 | 31 | 11 | b |
| 32 | 2 | 82 | 62 | c | 82 | 52 | 32 | 12 | c |
| 33 | 3 | 83 | 63 | b | 83 | 53 | 33 | 13 | c |
| 34 | 4 | 84 | 64 | b | 84 | 54 | 34 | 14 | a |
| 35 | 5 | 85 | 65 | b | 85 | 55 | 35 | 15 | b |
| 36 | 6 | 86 | 66 | c | 86 | 56 | 36 | 16 | d |
| 37 | 7 | 87 | 67 | a | 87 | 57 | 37 | 17 | d |
| 38 | 8 | 88 | 68 | a | 88 | 58 | 38 | 18 | d |
| 39 | 9 | 89 | 69 | b | 89 | 59 | 39 | 19 | a |
| 40 | 10 | 90 | 70 | b | 90 | 60 | 40 | 20 | c |
| 41 | 11 | 91 | 71 | b | 91 | 61 | 41 | 21 | b |
| 42 | 12 | 92 | 72 | c | 92 | 62 | 42 | 22 | b |
| 43 | 13 | 93 | 73 | d | 93 | 63 | 43 | 23 | b |
| 44 | 14 | 94 | 74 | a | 94 | 64 | 44 | 24 | d |
| 45 | 15 | 95 | 75 | d | 95 | 65 | 45 | 25 | a |
| 46 | 16 | 96 | 76 | b | 96 | 66 | 46 | 26 | b |
| 47 | 17 | 97 | 77 | c | 97 | 67 | 47 | 27 | a |
| 48 | 18 | 98 | 78 | a | 98 | 68 | 48 | 28 | c |
| 49 | 19 | 99 | 79 | d | 99 | 69 | 49 | 29 | c |
| 50 | 20 | 100 | 80 | c | 100 | 70 | 50 | 30 | a |

Let's solve the problem step by step.

### Given Data:

- A man sold two steel chairs for **Rs 500 each**.
- On the first chair, he **gains 20%**.
- On the second chair, he **loses 12%**.



### Step 1: Find the Cost Price (CP) of the First Chair

Let the **cost price** of the first chair be **x**.

Since he gains **20%**, we write:

$$\text{Selling Price} = x + 20\% \text{ of } x = 1.2x$$

Given **Selling Price = Rs 500**:

$$1.2x = 500$$

$$x = \frac{500}{1.2} = 416.67$$

So, **CP of the first chair = Rs 416.67**.

### Step 2: Find the Cost Price (CP) of the Second Chair

Let the **cost price** of the second chair be **y**.

Since he loses **12%**, we write:

$$\text{Selling Price} = y - 12\% \text{ of } y = 0.88y$$

Given **Selling Price = Rs 500**:

$$0.88y = 500$$

$$y = \frac{500}{0.88} = 568.18$$

So, **CP of the second chair = Rs 568.18**.

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### Step 3: Find Total CP and SP

- **Total Cost Price (CP) = 416.67 + 568.18 = 984.85**
- **Total Selling Price (SP) = 500 + 500 = 1000**

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### Step 4: Find Profit or Loss

$$\text{Profit/Loss} = \text{Total SP} - \text{Total CP} = 1000 - 984.85 = 15.15$$

Since the result is **positive**, he **gains Rs 15.15**.

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### Step 5: Find Percentage Gain

$$\text{Gain } \% = \left(\frac{15.15}{984.85}\right) \times 100$$

$$\approx 1.54\%$$

### Final Answer:

The man **gains approximately 1.5%** in the whole transaction.

**Answer: (a) 1.5% gain**.

62

Let's solve the problem step by step.

## Given Data:

- Amount after **2 years** = **Rs 720**
- Amount after **(2 + 5) = 7 years** = **Rs 1020**
- We need to find the **Principal (Sum)**.

## Step 1: Find the Interest for 5 Years

Since the amount increased from **Rs 720 to Rs 1020** over **5 years**, the **Simple Interest (SI) for 5 years** is:

$$\text{SI for } 5 \text{ years} = 1020 - 720 = 300$$

## Step 2: Find the Interest for 2 Years

Since interest is **simple interest**, it remains the same every year. So, the **SI for 1 year** is:

$$\text{SI for } 1 \text{ year} = \frac{300}{5} = 60$$

$$\text{SI for } 2 \text{ years} = 60 \times 2 = 120$$

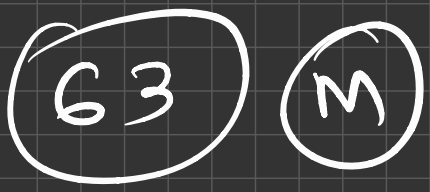
## Step 3: Find the Principal

We know that:

$$\text{Principal} + \text{SI for } 2 \text{ years} = 720$$

$$P + 120 = 720$$

$$P = 600$$




Let's solve the problem step by step.

### Given Data:

- **Average score of boys = 71**
- **Average score of girls = 73**
- **Overall average score = 71.8**
- We need to find the **ratio of the number of boys to the number of girls**.

### Step 1: Let the Number of Boys and Girls be $B$ and $G$

The formula for the **overall average** is:

$$\frac{(B \times 71) + (G \times 73)}{B + G} = 71.8$$

### Step 2: Multiply Both Sides by $B + G$

$$(B \times 71) + (G \times 73) = 71.8 \times (B + G)$$

Expanding,

$$71B + 73G = 71.8B + 71.8G$$

### Step 3: Rearranging Terms

$$73G - 71.8G = 71.8B - 71B$$

$$1.2G = 0.8B$$

### Step 4: Solve for $B : G$

Dividing both sides by **0.4**:

$$\frac{B}{G} = \frac{1.2}{0.8} = \frac{3}{2}$$

Let's break down this problem step-by-step:

**1. Define variables:**

- Let 'd' be the total distance of the journey in kilometers.
- Let 't' be the time taken (in hours) at the speed of 40 km/hour.

**2. Set up equations based on the given information:**

- **Equation 1 (Speed = 40 km/hour):**
  Distance = Speed * Time => d = 40t
- **Equation 2 (Speed = 35 km/hour):**
  Distance = Speed * Time => d = 35(t + 15/60) (15 minutes is 15/60 hours)

**3. Solve the equations:**

Since both equations are equal to 'd', we can set them equal to each other:

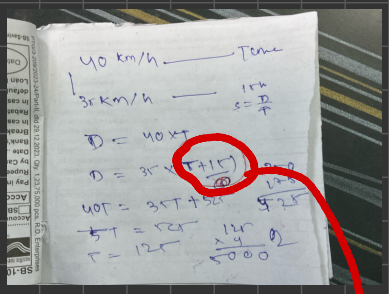
40t = 35(t + 1/4)
40t = 35t + 35/4
40t - 35t = 35/4
5t = 35/4
t = 35 / (4 * 5)
t = 7/4 hours

**4. Substitute the value of 't' back into Equation 1 to find 'd':**

d = 40 * (7/4)
d = 10 * 7
d = 70 km

**Therefore, the total journey is 70 km.**

**The correct answer is (c) 70 km.**



my mistake

I didn't convert 15 min into hours.

It should be $\frac{15}{60} = \frac{1}{4}$

67. The number of seats in an auditorium is increased by 25%. The price of a ticket is also increased by 12%.Then the increase in revenue collection will be

a) 40%
b) 35%
c) 45%
d) 48%

### Given Data:

- The number of seats in an auditorium is increased by **25%**.
- The price of a ticket is increased by **12%**.
- We need to find the **percentage increase in revenue collection**.

### Step 1: Use the Percentage Increase Formula

The total revenue is given by:

$$\text{Revenue} = \text{Number of Seats} \times \text{Price per Ticket}$$

If the number of seats increases by **25%**, then the new number of seats becomes **1.25 times** the original.

If the price of a ticket increases by **12%**, then the new price becomes **1.12 times** the original.

The new revenue becomes:

$$\text{New Revenue} = 1.25 \times 1.12 \times \text{Old Revenue}$$

$$= (1.25 \times 1.12) \times \text{Old Revenue}$$

$$= 1.4 \times \text{Old Revenue}$$

### Step 2: Calculate Percentage Increase

$$\text{Percentage Increase} = (1.4 - 1) \times 100 = 40\%$$

### Final Answer:

The increase in revenue collection is **40%**.

**Correct option: (a) 40%.**

68. A person takes a loan of Rs 10, 000 partly from a bank at 8% per annum and remaining from another bank at 10% per annum. He pays a total interest of Rs 950 per annum. Amount of loan taken from the first bank (in Rs) is:

a) 2500
b) 5200
c) 2050
d) 5020

## Given Data:

- A person takes a loan of **Rs 10,000** from two banks:
  - One bank charges **8% per annum** interest.
  - Another bank charges **10% per annum** interest.
- Total interest paid per annum = **Rs 950**.
- We need to find the **amount of loan taken from the first bank (at 8%)**.

## Step 1: Let the loan from the first bank be Rs x.

Then, the loan from the second bank is **(10,000 - x)**.

## Step 2: Calculate the interest from each bank

- Interest from the first bank = **(8% of x) = (8/100) * x = 0.08x**.
- Interest from the second bank = **(10% of (10,000 - x)) = (10/100) * (10,000 - x) = 1000 - 0.10x**.

## Step 3: Total Interest Equation

$$0.08x + (1000 - 0.10x) = 950$$

$$0.08x + 1000 - 0.10x = 950$$

$$-0.02x + 1000 = 950$$

$$-0.02x = -50$$

$$x = \frac{50}{0.02} = 2500$$

## Final Answer:

The amount of loan taken from the first bank is **Rs 2500**.

**Correct option: (a) Rs 2500.**

A + B + C = 342

?

3 : 2 : 2

3 : 3 : 2

9 : 6 : 4

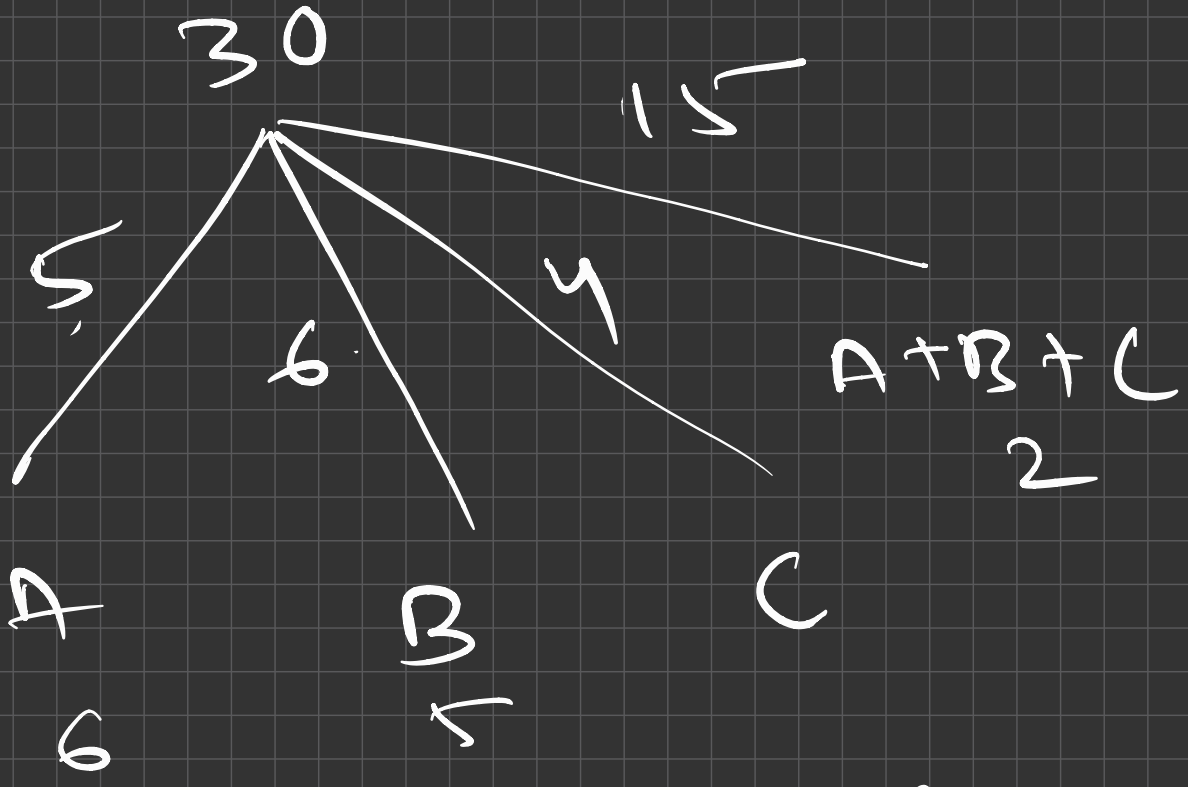
19 ⟹ 342

1 = 18

108

70 ✓

(71)




6, 5, 2

$$\frac{30}{4} = 7\frac{2}{4} = 7\frac{1}{2}H$$

---

(72)

B : G

3 : 2

30 : 20 = 50

$30 \times \frac{2}{10} = 6$ $\quad 20 \times \frac{1}{4} = 5$

$\frac{39}{50} \times 100 = 78\%$

Successive discount of 10% and 30% are equivalent to a single discount of

To find the equivalent single discount for successive discounts of **10% and 30%**, we use the formula for successive discounts:

$$\text{Equivalent Discount} = A + B - \frac{A \times B}{100}$$

where:

- $A = 10\%$
- $B = 30\%$

### Step 1: Apply the formula

$$\text{Equivalent Discount} = 10 + 30 - \frac{10 \times 30}{100}$$

$$= 40 - 3$$

$$= 37\%$$

### Final Answer:

The single equivalent discount is **37%**.

**Correct option: (d) 37%.**

74)

$$20 \times 432 = 8640$$

$$48 + 23 = 279$$

$$= 180 \text{ km}$$

---

75)

$$120 \longrightarrow 200$$

$$1 = \frac{200}{120} = \frac{20}{12}$$

$$30 \times 5 \times \frac{20}{12} = \frac{3000}{12}$$

$$= 240$$

80. Three years ago X's age was double of Y's. Seven years hence, the sum of their united ages will be 83 years. The age of X today is:

a) 47 years
b) 35 years
c) 45 years
d) 24 years

Solve this

Let's solve this step by step.

## Step 1: Define Variables

Let the present ages of X and Y be **X** and **Y**, respectively.

• Three years ago, X's age was double Y's age:

$(X-3) = 2(Y-3)$

• Seven years from now, the sum of their ages will be 83:

$(X+7) + (Y+7) = 83$

$X + Y + 14 = 83$

$X + Y = 69$

## Step 2: Solve the System of Equations

We now have two equations:

1. $X-3 = 2(Y-3)$
2. $X + Y = 69$

**Solve for X in terms of Y:**

**Solve for X in terms of Y:**

Expanding the first equation:

$X-3 = 2Y-6$

$X = 2Y-3$

**Substitute into the second equation:**

$(2Y-3) + Y = 69$

$3Y-3 = 69$

$3Y = 72$

$Y = 24$

## Step 3: Find X

$X = 2(24) - 3 = 48 - 3 = 45$

## Answer:

The age of X today is **45 years**.

**Correct option: (c) 45 years.**

**Question** Download Solution PDF

$\frac{1}{8}$th part of a pencil is black and $\frac{1}{2}$ part of the remaining is white. If the remaining part is blue and length of this blue part is $3\frac{1}{2}$ cm, then find the length of the pencil.

This question was previously asked in
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1. 6 cm
2. 7 cm
3. 8 cm
4. 9 cm

**Detailed Solution** Download Solution PDF

**Given:**

Part of Black Pencil = $\frac{1}{8}$

Part of white Pencil = $\frac{1}{2}$

the remaining $3\frac{1}{2}$ is blue

**Calculation:**

Let the total length of the pencil be LCM of $\frac{1}{8}$ and $\frac{1}{2}$ = 16x

Length of black colour = $\frac{1}{8}$ × 16x = 2x

Remaining = 16x - 2x = 14x

Length of white colour = $\frac{1}{2}$ × 14x = 7x

The remaining $3\frac{1}{2}$ is blue.

Remaining = 14x - 7x = 7x = $\frac{7}{2}$

⇒ x = $\frac{1}{2}$

Total length of the pencil = 16x = 16 × $\frac{1}{2}$ = 8m

∴ **Option 3 is the correct answer.**

79. 20 litres of a mixture contains milk and water in the ratio of 5 : 3. If four litres of this mixture is replaced by four litres of milk, then find the ratio of the milk to that of the water in the new mixture.

a) 2 : 3
b) 4 : 3
c) 5 : 3
d) 7 : 3



Let's solve this step by step.

### Step 1: Determine the Amounts of Milk and Water in the Initial Mixture

- The given mixture has **20 liters** with **milk and water in the ratio 5:3**.
- The total parts of the mixture = $5 + 3 = 8$.
- Milk quantity:

$$\frac{5}{8} \times 20 = 12.5 \text{ liters}$$

- Water quantity:

$$\frac{3}{8} \times 20 = 7.5 \text{ liters}$$

### Step 2: Removing 4 Liters of the Mixture

- Since the mixture is **removed proportionally**, the amount of **milk and water removed** is:
  - Milk removed:

$$\frac{5}{8} \times 4 = 2.5 \text{ liters}$$

  - Water removed:

$$\frac{3}{8} \times 4 = 1.5 \text{ liters}$$

- After removing 4 liters, the remaining amounts are:
  - Milk: $12.5 - 2.5 = 10$ liters
  - Water: $7.5 - 1.5 = 6$ liters

### Step 3: Adding 4 Liters of Milk

- New milk quantity:

$$10 + 4 = 14 \text{ liters}$$

- Water remains the same at **6 liters**.

### Step 3: Adding 4 Liters of Milk

- New milk quantity:

$10 + 4 = 14 \text{ liters}$

- Water remains the same at **6 liters**.

### Step 4: Find the New Ratio

$$\text{Milk} : \text{Water} = 14 : 6$$

Simplifying:

$$7 : 3$$

### Answer:

**(d) 7:3**

78. Find the maximum number of students among whom 1001 pens and 910 pencils can be distributed in such a way that each student gets the same number of pens and the same number of pencils?

a) 91
b) 910
c) 1001
d) 1911 .

To find the maximum number of students among whom **1001 pens** and **910 pencils** can be distributed equally, we need to find the **greatest common divisor (GCD)** of **1001 and 910**.

### Step 1: Prime Factorization

**Factorize 1001:**

$$1001 = 7 \times 11 \times 13$$

**Factorize 910:**

$$910 = 2 \times 5 \times 7 \times 13$$

### Step 2: Find the GCD

The common factors between **1001** and **910** are **7 and 13**:

$$GCD(1001, 910) = 7 \times 13 = 91$$

### Step 3: Interpret the Result

- The greatest number of students that can evenly receive both pens and pencils is **91**.
- Each student will get:
  - **1001 ÷ 91 = 11 pens**
  - **910 ÷ 91 = 10 pencils**